Art. XIII.—*New or Little-known Victorian Fossils in the National Museum.*

Part XXV.—Some Silurian Tabulate Corals.

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(With Plates IX., X., XI.)

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Introduction.

The limestones and originally calcareous mudstones of the Yeringian series of Victoria afford a rich field for research, especially in regard to the corals. The following six new species help to elucidate the undescribed tabulate forms, though there is a large number of the rugose corals still to be determined.

A new locality is recorded for *Favosites forbesi,* whilst the new species, *F. spinigera,* affords additional evidence, in its alliance to *F. grandipora,* in support of the subgeneric value of *Emmonsia,* Edwards and Haime.

The opportunity is here taken to enlarge on certain interesting morphological details concerning the remarkable coral, *Pleurodictyum,* the Victorian species of which, *P. megastomum,* has thrown much light on the relationship of the genus to others of the *Favositidae.*

Specially noteworthy is the record of a Silurian *Michelinia,* which bears all the characters of the later occurring species of the genus, of Devonian and Carboniferous ages.

The description of two new species of Silurian *Alveolites* from Cave Hill shows how little this coral fauna has been investigated.

The *Romingeria* is the second described species from the Australian palaeozoic, the genus, with some reservation, having been first noted by Etheridge from the Devonian Burdekin Limestone of Queensland.

Syringopora occurs for the second time in Silurian rocks in Australia; it is a common component of the Australian Devonian and Carboniferous faunas.

The genera and species herein described are:—

Favosites forbesi, Edwards and Haime.
Favosites (Emmonsia) spinigera, sp. nov.
Alveolites victoriae, sp. nov.
Alveolites regularis, sp. nov.
Pleurodictyum megastomum, Dun.
Michelinia progenitor, sp. nov.
Romingeria ramulosa, sp. nov.
Syringopora thomii, sp. nov.

Description of Species.

Class ANTHOZOA, (Corals).

Suborder TABULATA.

Fam. FAVOSITIDAE.

Genus **Favosites,** Lamarck.

FAVOSITES FORBESI, Edwards and Haime.

Favosites forbesi, Edwards and Haime, 1855, Mon. Brit, Foss. Corals, (Pal. Soc. Mon.), p. 258, pl. lx., figs. 2, 2*a-g*. Chapman, 1914, Rec. Geol. Surv. Vict., vol. lll., pt. 3, p. 308, pl. liii., fig. 9; pl. lvi., fig. 27. Idem., 1920, ibid., vol. iv., pt. 2, p. 186, pl. xxii., figs. 16, 17.

Observations.—This coral is widely distributed in the Yeringian beds of the Victorian Silurian. It differs in no way from the British examples from the Wenlock Limestone. The normal massive form of the Silurian type, as distinguished from the Devonian nodular and branching forms, is here recorded for the first time from the blue-grey limestone of Cave Hill, Lilydale.

In the specimens now figured, which have a diameter of about two inches, the corallites are curved and irregular, with an average diameter of 1.5mm., rather short, and with the outlines four, five or six-sided. Septal spines are present, but small, with occasionally one long projecting spine which is thicker than usual. Tabulae are numerous, about 8 to 10 in 5mm. The mural pores are large, irregularly and widely spaced.

Occurrence.—Cave Hill, Lilydale (coll. F. Chapman); Also found at Deep Creek, Thomson River; Cowombat Creek; Gibbo River; Mitta Mitta River; Wombat Creek. Silurian (Yeringian).

Genus Favosites, Lamarck. Sub-genus Emmonsia, Edwards and Haime.

Favosites (Emmonsia) spinigera, sp. nov.

Description.[1]—Corallum massive, probably roughly dome-shaped. Corallites prismatic with distinct double walls, sometimes hardly in contact; somewhat irregular in width, varying from .8 to 1.8mm. Tabulae numerous, about 8 in the space of 5mm., of two kinds, complete and incomplete. The former are thin and mainly horizontal, but some are convex and others are concave or even occasionally oblique. The incomplete tabulae or squamulae are thick at the base, tapering to a thin edge and often strongly curved, extending nearly halfway across the tube. Septal spines long, about 8 in the cycle. Mural pores large, rare, disposed along the middle of the prism wall.

Affinities.—That this striking species falls into the subgenus *Emmonsia* is evident from the presence of numerous incomplete and spinelike tabulae seen in section. It differs from *Favosites (Emmonsia) hemispherica*, Yandell and Shumard,[2] from the Upper Silurian and Devonian of Ontario, in having an equal number of complete and incomplete tabulae, and in the single row of large mural pores, whereas the Canadian specimens have a double row of small ones.

In *F. grandipora*, Eth. fil.[3], we have some of the characters seen in the above species, as in the spiniform tabulae, though not so well developed; the mural pores are also large and uniserial as in *F. (E.) spinigera*, but the breadth of the corallites in the latter is nearly twice as great.

Observations.—Nicholson held the view[4] that *Emmonsia* should be regarded as of subgeneric value only, for some specimens of a species show complete tabulae, whilst others have both complete and incomplete. Fraipont on the other hand regarded *Emmonsia* as a valid genus and pointed out the general trend of tabulate structure in the Favositid and allied corals, which pass from the horizontal character in the Silurian and Devonian

1. The description is based on a slice of the coral, the original specimen of which has been mislaid.

2. Contrib. Geol. Kentucky, 1847, p. 7. See also Nicholson, Pal. Tabulate Corals, 1879, p. 67, pl. III., figs. 3, 3*a*, *b*.

3. Rec. Austr. Mus., vol. I., No. 3, 1890, p. 61, pl. VIII., figs. 6-9.

4. Pal. Tab. Corals, 1879, p. 41. See also remarks by R. Etheridge (junr.) on the same point in Rec. Geol. Surv., N.S. Wales, vol. VI., pt. 3, 1899, p. 167.

to the incomplete or vesicular in the Devonian and Carboniferous formations[5].

Occurrence.—Silurian (Yeringian). Deep Creek, Thomson River, Gippsland. Collected and presented by the late Rev. A. W. Cresswell, M.A.

Genus **Alveolites**, Lamarck.

Alveolites victoriae, *sp. nov.*

Description.—Corallum forming large, more or less erect to hemispherical masses, of irregular, moderately thick-walled, curved corallites, triangular, square or pentagonal in cross section, rarely six-sided. Towards the exterior of the corallum the calices expand and the walls thicken. In transverse section the walls show a conspicuous median residual of a dark colour. Diameter of corallites 1 to 1.5mm. Mural pores large, circular or elliptical, seen disposed in the angles of the corallite. Tabulae thin, horizontal, slightly curved or oblique, 8 to 10 in 5mm. Height of corallum about 5cm.; width about 3.5cm. In many of the corallites the vertical ridge is seen in transverse section as a strong projecting tooth.

Affinities.—The present species resembles *A. suborbicularis*, Lam.[6] in the comparatively thick walls, as well as in the blunt-ended longitudinal ridge; the calices in the latter are, however, less regularly polygonal.

A species tentatively referred to *A. suborbicularis* was described by the present writer from the Yeringian of Deep Creek, Thomson River, Gippsland[7]. This specimen also has a thick septum or longitudinal ridge; the corallites increase rapidly from the base of attachment to the distal surface, and measure from 1 to 3mm. in transverse diameter. In this example, however, the calices were less regularly polygonal.

A somewhat similar form to the above is figured by R. Etheridge jnr. from the Middle Devonian of Arthur's Creek, Burdekin Downs, Queensland[8], referred to as "*Alveolites* sp. indet." It differs very slightly from *A. victoriae* in having more irregular tabulae and more constant five or six-sided corallites.

5. Sur les Affinites des Genres *Favosites, Emmonsia, Pleurodictyum et Michelinia.* Annales Soc. Geol. Belgique, vol. XVI., pt. I., 1889, p. 31.

6. Hist. des Anim. sans Vert., 1816, vol. II., p. 186. See also Nicholson, Pal. Tab. Corals, 1879, p. 126, pl. VI., figs. 2, 2*a*, *b*, and woodcut, fig. 20.

7. Chapman, Rec. Geol. Surv. Vict. vol. III., pt. 3, 1914, p. 310, pl. LVIII., fig. 30.

8. Geol. and Palaeont. of Queensland, 1892, p. 54, pl. I., figs. 15-17.

Occurrence.—This species was found in the Silurian (Yeringian) of Cave Hill, Lilydale, by the writer in 1902.

ALVEOLITES REGULARIS, sp. nov.

Description.—Corallum compact, forming comparatively large masses, occasionally as low divergent branches. One specimen measures over 9cm. in expanse. Corallites polygonal or subtriangular to rounded, averaging .5mm. in diameter, with a strong projecting tooth, and very minute spiny septa. Walls of corallites moderately thick, divided by horizontal tabulae fairly regularly spaced, about 10 in 5mm. Pores rare, large, situated in the angles of corallites.

Affinities.—This form also shows certain characters common to *A. suborbicularis,* but is distinguished by the regularity of the corallites. It also approaches *A. vallorum,* Meek[9], a Devonian species of Canada, especially in the fine and delicate spiniferous septa.

Occurrence.—Silurian (Yeringian), Cave Hill, Lilydale. Type presented to the Museum by F. Chapman. Also found at Cooper's Creek, Thomson River, Gippsland; presented by the late Rev. A. W. Cresswell, M.A.

Genus **Pleurodictyum,** Goldfuss.

PLEURODICTYUM MEGASTOMUM, Dun.

Pleurodictyum megastoma, McCoy, 1867, Intercolonial Exhibition Essays, 1866. On the recent Zoology and Palaeontology of Victoria, p. 23 footnote (nomen nudum), also Ann. and Mag. Nat. Hist., 1867, ser. 3, vol. xx., p. 201.

Pleurodictyum problematicum, Goldfuss, Foerste, 1888, Notes on Palaeozoic Fossils. Bull. Sci. Lob. Denison Univ. vol iii., p. 132, pl. xiii., fig. 22.

Pleurodictyum sp. indet., R. Etheridge jnr. 1896, Descr. Tasmanian Silurian Fossils, from Rep. of Secy. for Mines, p. 31, pl. 1., fig. [1].

Pleurodictyum megastomum, Dun, (McCoy MS.), 1898, Proc. Roy. Soc. Vict., vol. x. (N.S.), pt. ii., p. 83, pl. iii., figs. 1, 2.

P. megastomum, Dun, Chapman, 1903, ibid., vol. xv. (N.S.), pt. ii., p. 105, pl. xvi., figs. 2-5. Idem, 1914, Australasian Fossils, p. 114 and fig. 69E.

9. Trans. Chicago Acad. Sci., vol. I., 1868, p. 86, pl. XI., figs. 9, 9*a*.

Characters of the corallum.—There is little to add to the technical description given by Mr. W. S. Dun, and later, by the writer, excepting to say that the corallum attains much larger dimensions than was then stated, a specimen before me, from the junction of the Woori Yallock and Yarra, indicating at least 3 corallites when complete.

The basal epitheca is perhaps more strongly concentrically wrinkled than in the other recorded species, and seems to have been also covered with a fine pustulation.

Intermural gemmation is shown by the intercalation of triangular corallites between the normal quadrangular corallites. The outline of the corallites in *P. megastomum* are either pentagonal or quadrangular (trapezoidal in shape), or broadly triangular when interpolated between other normal corallites. On the other hand the foreign species have mostly elongate rhomboid corallites as typically shown in *P. problematicum,* Goldfuss[10]; irregularly polygonal in *P. stylophora,* Eaton sp.[11]; and hexagonal in *P. amazonicum,* Katzer[12].

It seems impossible to separate the other so-called species, *P. lonsdalei,* Richter[13], found in Devonian strata in Thuringia, which seems to show a wider spacing of the peripheral corallites than usual, but which are of the typical form seen in *P. problematicum.*

There is one species, however, which does seem to simulate the Victorian form to some extent, viz., *P. constantinopolitanum,* Roemer[14], in the breadth and general shape of the corallites. This was obtained from the Devonian of the neighbourhood of Constantinople.

Like other representatives of the genus this tabulate coral is in the Victorian specimens only preserved as casts, in mudstone or sandstone. They differ from other species in the larger size of the corallites with more quadrate form and in being generally arranged in fewer cycles. In one mudstone cast, from loc. B. 23, the tabulae are fortunately shown as thin irregular plates, some-

10. Petrifacta Germaniae, vol. I., 1826, p. 113, pl. XXXVIII., fig. 18; vol. II., p. 286, pl. CLX., fig. 19. Also G. and F. Sandberger, Verst. Rhein. Schicht. Nassau, 1850-6, p. 405, pl. XXXVII., figs. 8, 8*a-c.*

11. *Astraea stylophora,* Eaton, Geol. Text-book, 1832. *Pleurodictyum stylophorum,* Eaton sp., Nicholson, 1879, Pal. Tab. Corals, p. 143, pl. VIII., figs. 1, 1*a, b,* text-fig. 22.

12. Geol. unt. Amazonasgebietes, Leipzig, 1903, p. 192, pl. IX., figs. 1*a-c.*

13. Zeitschr. d. deutsch, Geol. Gesellsch, vol. VII., 1855, pp. 562, 563, text-fig. 5.

14. Neues Jahrb., 1863, p. 519, pl. V.

times vesicular, between the vertical partitions or undeveloped septa[15].

Whilst a peculiar tubular worm-like body is commonly found at the base of the European and American forms, this has not occurred in the Victorian species. On the other hand, many of the specimens show an imprint of a crinoid stem firmly impressed, and in one specimen of mudstone there are two small individuals of this coral, each of which has affixed itself upon a small *Spirifer* (*S.* cf. *crispus*) as a *point d'appui.* Numerous septa are present in *P. megastomum* which are tuberculate or granulate, of a much coarser texture than that seen in *P. problematicum* and other allied species[16].

The epitheca is strong in the Victorian species and concentrically wrinkled like the foreign forms, and is also radiately marked with granulated lines.

The Remarkable Development of Pleurodictyum in the Devonian.—With the exception of the Victorian occurrence, this genus is confined to the Lower and Middle Devonian in Western Europe, Great Britain and North America. The question here arises, should our Yeringian fauna be regarded as Devonian rather than Silurian? It is true that several genera occurring in the Yeringian seem to support this view, such as *Phillipsastraea* and *Michelinia,* but on the other side of the argument, the evidence of the gasteropods, trilobites and ostracoda is overwhelming.

This constrains us at present to assume that certain forms of life appeared amongst this Gotlandian and Wenlockian facies earlier than in the northern hemisphere, and migrated thence during the transition period between the Silurian and Devonian epochs.

Note on Allied Genera.—

Cleistopora, Nicholson[17]. The genotype of this genus is Milne Edwards and Haimes *Michelinia geometrica*[18]. It is a Devonian coral, discoidal, about 1.5 to 2cm. in diameter. It is said to be generally parasitic on a brachiopod, and in this respect resembles some Victorian specimens of *Pleurodictyum* herein mentioned. The short vertical corallites terminate in hexagonal

15 Nicholson, in his "Tabulate Corals," p. 148, et seq., gives an admirable account of the structure of *Pleurodictyum,* based on sections taken through the coralla of *P. stylophorum.*

16. For further references to other species see Robinson, Trans. Connecticut Acad. Arts and Sci., vol. XXI., 1917, p. 169.

17. Geol. Mag., vol. V., 1888, p. 150.

18. Polyp. foss. Terr. Pal., 1851, p. 252, pl. XVII., figs. 3, 3*a*.

calices. In this feature it differs from the Victorian *Pleurodictyum* but seems to agree with *P. amazonicum,* though the latter has comparatively long corallites. The visceral chamber is occupied by a mass of trabecular tissue formed by irregularly anastomosing fibres, and this structure is apparent on the floor of the calice. In *Pleurodictyum megastomum* on the contrary, septa are seen to be developed around the outer margin and feebly extend to the inner edge.

Vaughania, Garwood[19] is a Carboniferous coral having certain affinities both with *Cleistopora* and *Pleurodictyum.* From *Cleistopora* it differs in having no trabecular tissue at the floor of the calice, the corallum being formed of compact fibrous coenenchyma; it has a definite system of ring-canals and branches and a basal epitheca as in *Pleurodictyum.* From the latter genus it differs in the vertical calices and absence of tabulae and septal spines, but has intermural pores.

Occurrence.—Pleurodictyum megastomum is one of the typical fossils of the Yeringian Series of Victoria. The figured specimen, built on a *Spirifer,* was collected by Mr. R. H. Annear from Hughes' Quarry near Lilydale; whilst the small but complete corallum was presented by Mr. A. M. Savige and came from Kinglake West.

The localities for *P. megastomum* are:—

In the Lilydale and Upper Yarra districts.—Hughes' Quarry (R. H. Annear); Ruddock's Quarry (F. P. Spry, J. S. Green, F. Chapman); Wilson's Quarry (J. T. Jutson); Seville (J. S. Green); 1½ miles below Simmon's Bridge Hut on the Yarra (Geol. Surv. Vict. B. 16)[20]; junction of Woori Yallock and Yarra (Geol. Surv. Vict. B. 23); Woori Yallock, Mr. J. H. Syme's Orchard (F. Chapman).

In Gippsland.—Loyola near Mansfield; Thomson River; Cooper's Creek, Thomson River (Rev. A. W. Cresswell and A. A. Henderson).

District of Plenty Ranges.—Kinglake West (A. M. Savige); Clonbinane; Wandong (F. P. Spry); Merriang Road near Kilmore (J. T. Jutson); Kilmore (G. Sweet).

In addition to these localitites the same species is apparently found at Zeehan in Tasmania (R. Etheridge jnr. and Rev. H. Anderson), and also at Yass, N. S. Wales (W. S. Dun).

19. Quart. Journ. Geol. Soc., vol. LVIII., 1912, p. 564.
20. This locality was referred to in error as "West of Mount Disappointment," in my paper—Proc. R. Soc., Vict., vol. XV. (N.S.), pt. II., 1903, p. 107.

Genus **Michelinia**, de Koninck.

MICHELINIA PROGENITOR, sp. nov.

Description.—Corallum hemispherical, rather depressed. Corallites small, walls thick, having a diameter of 2 to 3mm., prismatic, chiefly hexagonal in transverse section. Tubes of corallites filled with funnel-shaped tabulae, at times regularly inserted centrally to form a cornute tube. Height of corallum about 3.5cm. (nearly one and a-half inches); expanse of specimen about 6.5cm. (about two and a-half inches).

Observations.—It is of very great interest to find a typical representative of the genus *Michelinia* so far down in the palaeozoic series. *Michelinia* is known from the Devonian of Canada, Devonshire and Asia Minor, and more profusely from the Carboniferous limestone of England and Russia; whilst in the Australian coral fauna, up to the present two identifications of this genus have been made, viz., *Michelinia* sp. cf. *tenuiseptata,* Phillips sp. from the Carbopermian of Co. Buckland, N. S. Wales (probably Upper Marine Series)[21] and another from the Carboniferous of Lion Creek, Stanwell, near Rockhampton, Queensland[22]. The calices of the former have a diameter of 7-9mm. and the tabulae consist of much more crowded and irregular vesicular tissue. In the Queensland specimen the corallites have a diameter of 2-4mm. The tabulae are stated to be very numerous and anastomose freely, but do not appear to show the funnel-shaped arrangement of the Victorian form. It is not specifically named.

The present species, by far the oldest known, is a small celled, neat and thoroughly typical example of the genus. A distinguishing feature of the corallite structure is the great depth of the funnel-shaped tabulae.

Occurrence.—A well preserved specimen in whitish limestone from Cave Hill, Lilydale; coll. by Mr. R. H. Annear. Silurian (Yeringian).

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21. R. Etheridge (junr.), Mem. Geol. Surv. N.S. Wales. Pal. No. 5. 1891, p. 28, pl. IV., fig. 1. See also Ed. and Haime, Mon. Brit. Foss. Corals, 1852, pt. 3 (Mon. Pal. Soc.), p. 155, pl. XLIV., figs. 1, 1*a*, *b*.

22. R. Etheridge (junr.). Bull. Geol. Surv., Queensland, No. 12, 1900, p. 7.

Fam. AULOPORIDAE.

Genus **Romingeria**, Nicholson.

ROMINGERIA RAMULOSA, sp. nov.

Specific Characters.—Corallum apparently attached by the base only, afterwards free; branching at intervals, sometimes forming verticils of three branches. Corallites slender, elongate, trumpet-shaped; walls perforate. Tabulae thin, slightly concave and numerous. External surface of corallites sometimes facetted or angulate; epitheca finely wrinkled transversely.

Dimensions.—Length of corallites from 4 to 8mm.; width at mouth from 2.75 to 3mm.

Remarks and Affinities.—As regards the relationship of *Aulopora* to the present genus, Nicholson[23] said that he was "constrained to separate *Romingeria* from the *Auloporidae* as it possesses 'mural pores' in parts, while it further differs from *Aulopora* proper in having an erect corallum."

This perforate character in the present form of *Romingeria* is very well accentuated, nevertheless the whole build of the coral with this exception points to a close relationship with the better-known auloporoids.

In certain epithecal characters the present species reminds one of *Pleurodictyum,* one of the *Favositidae,* so that were it necessary to make a separation, *Romingeria* might eventually find a place in that family.

That this present species falls into the genus *Romingeria* is fairly clear from the fact that the corallum is free, excepting possibly at the base, unlike *Aulopora* which is attached from the base upwards to the terminals. One of the distinguishing characters which marks off the known *Romingeriae* from the auloporoid *Syringoporae* is its habit of forming verticils of corallites. This feature is also present, though feebly so, in *Romingeria ramulosa.* The genus is new to the Australian palaeozoic, with the exception of *Romingeria foordi* described by R. Etheridge jnr. from the Devonian of Reid Gap, near Townsville, Queensland[24].

Range of Genus.—*Romingeria* (formerly *Quenstedtia* of Rominger) has a geological range from the Silurian to the Devon-

23. On the Structure and Affinities of the Tabulate Corals of the Palaeozoic Period, 1879, p. 231.

24. Geol. and Palaeont. of Queensland, 1892, p. 56, pl. I., fig. 18.

ian, and hitherto confined to the North American area. *R. umbellifera,* Billings sp.[25] is found in the Corniferous Limestone (Lower Devonian) of Wainfleet, Lake Erie, Canada West; whilst a Silurian species, *R. niagarensis,* Rominger sp.[26] occurs in the Niagara Group, Upper Silurian, at Port Detour, Lake Huron, and also at Iowa.

Occurrence.—Abundant as well preserved ochreous-coated casts in the olive-brown mudstone of Ruddock's Quarry, near Lilydale. Silurian (Yeringian).

Fam. SYRINGOPORIDAE.

Genus **Syringopora,** Goldfuss.

Syringopora thomii, sp. nov.

Description.—Corallum moderately large; corallites in fairly close contiguity, about 2cm. or more in length, connected by short epithecal stolons. Calices filled with both funnel-shaped tabulae and numerous dissepiments which are confined to the sides. Walls of corallites thick, measured about .75 mm.; average diameter of calices, 3 to 4.6mm. Septa minute, spines about 40 to the cycle.

Observations.—The calices in this species are exceptionally large for the genus, but are more than matched by the Middle Devonian *S. spelaeanus,* Eth. fil.[27] found at Cave Flat, Murrumbidgee River, N. S. Wales, and at Buchan, Victoria. The latter species differs however, in having much more widely separated corallites, which measure 5.5 to 6mm. in diameter. The corallites of *S. spelaeanus* measure about 5 or 6 inches in length, against three quarters of an inch in S. thomii.

The walls of the Victorian species are not so thick as in *S. porteri,* Eth. fil.[28] of the Tamworth Limestone (Mid. Devonian), which also has smaller corallites (1.5 to 2mm. in diameter).

Syringopora syrinx, Eth. fil.[29] from the Carboniferous Limestone of Lion Creek, near Rockhampton has smaller calices than

25. *Aulopora umbellifera,* Billings. Canadian Journ. (N.S.), vol. IV., 1859, p. 119.

26. *Quenstedtia nigarensis,* Rominger, Geol. Surv. of Michigan, vol. III., pt. II., 1876, p. 72, pl. XXXIII., fig. 3 (lower specimen).

27. Rec. Austr. Mus., vol. IV., No. 7, 1902, p. 258, pl. XXXVII., fig. 2; pl. XXXVIII.

28. Rec. Geol. Surv., N.S. Wales, vol. VI., pt. 3, 1899, p. 176, pl. XVIII., fig. 3; pl. XXXI., figs. 1, 2.

29 Bull. Soc. Geol. Surv., Queensland, No. 12, 1900, p. 6, pl. I., figs. 6-9; pl. II., fig. 11.

the Victorian species, and it also differs in the greater amount of vesicular tissue within the tubes. Otherwise there is some resemblance between them.

S. bellensis, Eth. fil.[30] from the Silurian of the Wellington Caves, N. S. Wales, has smaller calices, with more regular circular openings. The same close contiguity is observable in both species.

Occurrence.—The type specimen is from the grey limestone of Loyola, near Mansfield, and was presented by the Rev. Robert Thom, after whom the coral is named, in recognition of his successful work in discovering many interesting fossil remains in the palaeozoic rocks of Victoria.

Also found in the limestone of Cave Hill, Lilydale; several specimens presented by C. S. Buckley Esq. Silurian (Yeringian).

EXPLANATION OF PLATES.

Plate IX.

Fig. 1.—*Favosites forbesi,* Edwards and Haime. Fractured vertical section of corallum. Silurian (Yeringian). Cave Hill, Lilydale. Plesiotype. C. S. Buckley coll. Nat. size.

Fig. 2.—*F. forbesi,* Ed. and H. Fractured transverse section of another specimen. Silurian (Yeringian). Cave Hill, Lilydale. Plesiotype. C. S. Buckley coll. Nat. size.

Fig. 3.—*Alveolites regularis,* sp. nov. Calicular aspect. Silurian (Yeringian), Cooper's Creek, Thomson River, Gippsland. Paratype. Rev. A. W. Cresswell coll. Nat. size.

Fig. 4.—*Pleurodictyum megastomum,* Dun. Base of corallum with wrinkled epitheca, showing *Spirifer* at centre; also another adjacent example. Silurian (Yeringian). Hughes' Quarry, near Lilydale. R. H. Annear coll. Nat. size.

Fig. 5.—*P. megastomum,* Dun. Wax squeeze from fig. 6, showing positive appearance of corallum. x $\frac{6}{5}$.

Fig. 6.—*P. megastomum,* Dun. Mud cast of corallum. Silurian (Yeringian). Kinglake West. A. M. Savige coll. x $\frac{6}{5}$.

Fig. 7.—*Michelinia progenitor,* sp. nov. Fractured surface, transverse section. Silurian (Yeringian). Cave Hill, Lilydale. Holotype. R. H. Annear coll. Nat. size.

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30. Rec. Geol. Surv. N.S. Wales, vol. V., pt. 4, 1898, p. 150, pl. XVI.

Fig. 8.—*M. progenitor,* sp. nov. Vertical section through corallites. Silurian (Yeringian). Cave Hill, Lilydale. R. H. Annear coll. Nat. size.

PLATE X.

Fig. 9.—*Michelinia progenitor,* sp. nov. Vertical section showing infundibuliform tabulae. Silurian (Yeringian). Cave Hill, Lilydale. R. H. Annear coll. x 3.

Fig. 10.—*Romingeria ramulosa,* sp. nov. Corallum in mudstone. Silurian (Yeringian). Ruddock's Quarry, near Lilydale. Holotype. J. S. Green coll. Nat. size.

Fig. 11.—*R. ramulosa,* sp. nov. Corallites weathered, in mudstone, showing perforated walls and impressions of tabulae. Silurian (Yeringian). Ruddock's Quarry, near Lilydale. Paratype. W. J. Parr coll. x 10.

Fig. 12.—*R. ramulosa,* sp. nov. Enlarged outline of corallum, seen in fig. 10. Silurian (Yeringian). Ruddock's Quarry, near Lilydale. x 2.

Fig. 13.—*R. ramulosa,* sp. nov. Enlarged drawing of another specimen from the same locality, showing three corallites in verticil. Paratype. F. C. coll. x 2.

Fig. 14.—*Syringopora thomii,* sp. nov. Corallum, weathered, in grey limestone. Silurian (Yeringian.) Loyola, near Mansfield. Holotype. Rev. Robert Thom coll. Nat. size.

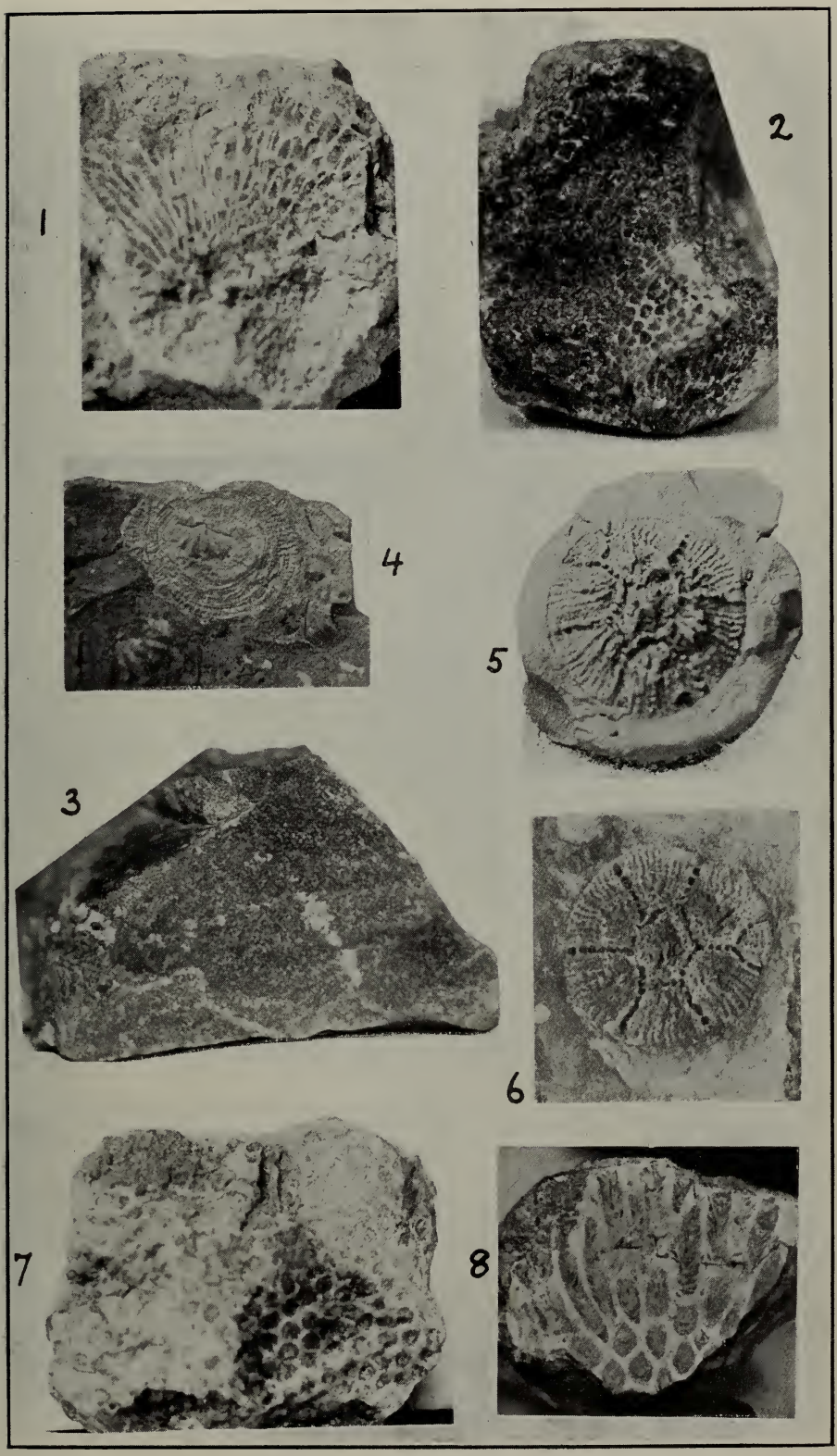
Fig. 15.—*S. thomii,* sp. nov. Section across corallum. Silurian (Yeringian). Cave Hill, Lilydale. Paratype. C. S. Buckley coll. Nat. size.

Fig. 16.—*S. thomii.* sp. nov. Section across corallite, showing dentate septa and curved tabulae. Silurian (Yeringian). Loyola, near Mansfield. Tectotype. R. Thom coll. x 10.

PLATE XI.

Fig. 17.—*Aveolites victoriae,* sp. nov. Vertical micro-section showing irregular walls, large mural pores and thin tabulae. Silurian (Yeringian). Cave Hill, Lilydale. Tectotype. x 16.

Fig. 18.—*A. victoriae,* sp. nov. Transverse micro-section, showing irregular, polygonal calices and thick tooth of vertical ridge. Silurian (Yeringian). Cave Hill, Lilydale. Tectotype. x 16.



F.C., photo.

Favosites, Alveolites, Pleurodictyum, Michelina.